

## SYMPOSIUM ANNOUNCEMENT

# BIOENGINEERING 2003

## INTELLIGENT TECHNOLOGIES FOR THE BODY HUMAN

Updates and registration to be posted on [http://advtech.jsc.nasa.gov/events\\_of\\_interest.asp](http://advtech.jsc.nasa.gov/events_of_interest.asp)  
Organized by the Advanced Technology Integration Group at NASA's Johnson Space Center

**WHO:** Approximately 100 technology developers and users in the bioengineering community, representing NASA, other government agencies, the military and Department of Defense, and academia (limited attendance).

**WHAT:** Small-scale, technology-focused symposium on the bioengineering solutions that advance the safety, health, and performance of crews in remote or hostile environments. Below is a sampling of proposed topics for BioE 2003, with the complete list to be posted online soon:

### Cellular and Molecular Therapy

- Stressor detection from salivary, blood or tissue DNA
- Immune-strengthening pharmaceuticals, synthetic immune systems, synthetic antibody-like drugs, and immuno-modulators
- Pharmaceutical and nutritional treatments to reduce susceptibility to radiation damage

### Tissue Engineering and Regeneration

- Terrestrial cell culture models for studying the effects of microgravity on gene expression
- Tissue engineering, growth factors, or other methods for organ regeneration or replacement

### Critical Care

- Computerized cognitive assessment following trauma or exposure to hostile environment
- Devices that guide or support independent, self-administration of life-saving treatments
- VR systems with tactile feedback for training non-MD to perform simple medical procedures
- Head-mounted displays or glasses that display data unobtrusively (including VR or AR)

### Sensors and Networks for Monitoring

- Continuous, wireless measurement of important analytes in blood
- Miniature, non-invasive microfluidic saliva sensor
- "Wear and forget" sensors for multi-day use in highly active individuals (e.g., astronauts, firefighters, and first responders)
- Computational algorithms that determine physiological state from wearable sensor network

**WHEN:** Two days in early 2003, with exact dates and schedule to be determined

**WHERE:** Regent's Park III meeting facility in Houston, Texas (adjacent to NASA JSC)

**WHY:** To address the most critical technology needs and best solutions in the bioengineering community in a forum that encourages education, networking, and collaboration.  
With time for over 20 half-hour presentations, presenters are encouraged to propose a topic and title via the online form.

**HOW:** *Participants and speakers do NOT pay any registration fee!* But, there are NO funds to defray travel, hotel, or meal costs for BioE 2003.

Advanced Technology Integration Group

Don Stilwell  
[donald.j.stilwell1@jsc.nasa.gov](mailto:donald.j.stilwell1@jsc.nasa.gov)

Alyssa Mueller  
[sarah.a.mueller1@jsc.nasa.gov](mailto:sarah.a.mueller1@jsc.nasa.gov)

Visit the Events Web page for updates:  
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